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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/672,486

09/25/2003

John R. Moffatt

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8250

7590 04/20/2007  
HEWLETT-PACKARD COMPANY  
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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT

PAPER NUMBER

1774

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,486

Applicant(s)

MOFFATT ET AL.

Examiner

Betelhem Shewareged

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3,4,6-26 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,6,7,21-26 and 28-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's response filed on 07/31/2006 has been fully considered. Claims 1, 2, 5 and 27 are canceled, claims 4 and 21 are amended, and claims 3, 4, 6-26 and 28-33 are pending. (NOTE: Claims 8-20 are withdrawn from consideration as non-elected invention).

### ***Claim Rejections - 35 USC § 102***

2. Claims 3, 21, 22, 24-26 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schleicher et al. (US 5,837,036).
3. Schleicher discloses a composition comprising poly(phenylene sulfide) coated on a support, wherein the poly(phenylene sulfide) has a molecular weight of 4,000-200,000, and a melting point of above 250 degree C. The poly(phenylene sulfide) comprises poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). (See col. 3, line 8 thru col. 3, line 49 and col. 4, line 34).

### ***Response to Arguments***

4. In response to Applicant's argument, the use of the ozone-binding polymer is not limited to making a filter. The ozone-binding polymer can also be used as powder, granules, fiber, nonwoven web, felt, fabric, film, sintered material, foam, mouldings or as a coating or impregnation of support materials. The ozone-binding polymer coated or impregnated on the support is equivalent to the claimed invention. Thus claims 3, 21, 22, 24-26 and 33 stand rejected.

***Claim Rejections - 35 USC § 103***

5. Claims 3, 4, 6, 7, 21-26 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchida et al. (US 2002/0071941 A1) in view of Schleicher et al. (US 5,837,036).

6. Tsuchida discloses an ink jet recording medium comprising a homopolymer or copolymer compound containing sulfur (abstract) to ensure a high density of printed images, to provide images having high quality, to show only a slight color change and discoloration of printed images even when exposed to ozone gas and is excellent in the long-term shelf life (abstract). Tsuchida does not disclose that the sulfur containing compound is poly(1,4-phenylene sulfide) or poly(1,3-phenylene sulfide).

7. Schleicher teaches a composition that can be coated on a support, wherein the composition comprises poly(phenylene sulfide) having a molecular weight of 4,000-200,000, and a melting point of above 250 degree C. The poly(phenylene sulfide) comprises poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). (See col. 3, line 8 thru col. 3, line 49 and col. 4, line 34).

8. Tsuchida and Schleicher are analogous art because they are from a similar problem solving area in relation to ozone gas resistance. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) of Schleicher with the invention of Tsuchida in order to reduce the ozone content in the recording sheet by reacting the ozone with the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) (see col. 1, line 65 of Schleicher).

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9. With respect to the amount of the poly(1,4-phenylene sulfide) or poly(1,3-phenylene sulfide), the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the amount of the poly(1,4-phenylene sulfide) or poly(1,4-phenylene sulfide) in order to ensure a high density of printed images, to provide images having high quality, to show only a slight color change and discoloration of printed images even when exposed to ozone gas. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

### ***Response to Arguments***

10. The combination of Tsuchida (drawn to use of different types of sulfur containing compounds) with Schleicher (drawn to use of sulfur-containing compounds on non-print media that are specifically used to remove ozone from liquid and gas samples running through the filter system) are drawn to entirely different arts and cannot be combined. This argument is not persuasive for the following reason. Combining the two references is proper because Tsuchida teaches an ink jet recording medium comprising a homopolymer or copolymer compound to prevent or reduce discoloration of printed images even when exposed to ozone gas. But the homopolymer or copolymer compound is different from the claimed inhibitor. Schleicher teaches a composition that can be coated on a support, wherein the composition comprises the

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claimed inhibitor. Tsuchida and Schleicher are analogous art because they are from a similar problem solving area in relation to ozone gas resistance. It would have been obvious to a person of ordinary skill in the art to combine the inhibitor of Schleicher with the invention of Tsuchida in order to reduce the ozone content in the layer by reacting the ozone with the inhibitor (see col. 1, line 65 of Schleicher). For the above reason claims 3, 4, 6, 7, 21-26 and 28-33 stand rejected.

### ***Conclusion***


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Fri. 8:00AM-4:30PM.
12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS

September 25, 2006.

  
BETELHEM SHEWAREGED  
PRIMARY EXAMINER